

**REDESCRIPTION OF *PARANCISTRUS AURANTIACUS*
(CASTELNAU, 1855) AND PRELIMINARY ESTABLISHMENT
OF TWO NEW GENERA : *BARYANCISTRUS* AND *OLIGANCISTRUS*
(SILURIFORMES, LORICARIIDAE).**

by

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ABSTRACT. - The type-species of the genus *Parancistrus*, *P. aurantiacus* (Castelnau, 1855), is redescribed based on type and non-type material. Regan's proposal (1904) that *Parancistrus nigricans* (Castelnau, 1855) and *Parancistrus vicinus* (Castelnau, 1855) are synonyms of *Parancistrus aurantiacus* is confirmed based on the reexamination of the three types. Other species hitherto assigned to *Parancistrus*, such as *P. niveatus* (Castelnau, 1855) and *P. punctatissimus* (Steindachner 1881), are allocated to two new genera *Baryancistrus* and *Oligancistrus* herein preliminary established. The genus *Parancistrus* Bleeker, 1862, comprises now only one species : *P. aurantiacus*.

RÉSUMÉ. - *Parancistrus aurantiacus* (Castelnau, 1855), espèce-type du genre *Parancistrus*, décrite du Rio Ucayali, Pérou, est redécrite à partir du type et de matériel complémentaire provenant du cours inférieur du Rio Tocantins. La mise en synonymie de *Parancistrus nigricans* (Castelnau, 1855) et de *Parancistrus vicinus* (Castelnau, 1855) avec *Parancistrus aurantiacus*, proposée par Regan (1904), est confirmée après un nouvel examen des types de ces espèces. L'auteur propose que deux espèces, rapportées au genre *Parancistrus*, *P. niveatus* (Castelnau, 1855) et *P. punctatissimus* (Steindachner, 1881), soient placées dans deux nouveaux genres : *Baryancistrus*, espèce-type *B. niveatus*, et *Oligancistrus*, espèce-type *O. punctatissimus*. Le genre *Parancistrus* Bleeker, 1862, espèce-type *P. aurantiacus*, devient ainsi monospécifique.

Key-words : Loricariidae, *Parancistrus aurantiacus*, *Baryancistrus*, *Oligancistrus*, ASW, Brazil, Taxonomy.

In 1855, Castelnau described various new species of loricariid catfishes, including three species of «*Hypostomus*» : *H. aurantiacus* and *H. vicinus* from the «Rio Ucayali», and *H. nigricans* from «F. Amazone» (Rio Amazonas ?). According to the illustrations, these species appear to be quite different. However, in the text, Castelnau did not elucidate the differences. Examination of the three type specimens yielded that the differences between the nominal species are actually inexpressive. In terms of size, the holotype of *Hypostomus aurantiacus* is the largest specimen, a robust adult animal. The hooks on the interopercle and on the pectoral spine are well developed and the whole body uniformly brownish. The holotype of *Hypostomus nigricans* is a smaller specimen, also broad and short, though more depressed. The hooks on the interopercle and on the pectoral spine are also well developed and the whole body presents a uniform dark-brown, almost black pigmentation. The third holotype, *Hypostomus vicinus*, is the smallest specimen but basically presents the same characters in terms of body shape, hooks and spines, except for the scutelets on the belly, which are fewer and do not totally cover the abdomen. This character, however, is variable and dependent on age. During growth, the abdomen becomes completely covered.

Actually, the few differences between the type specimens can probably be explained by : 1) taxidermy preparation and 2) age differences. The taxidermy preparation is responsible for the «robustness» of the holotype of *Hypostomus aurantiacus*. Age differences can affect size and number of scutelets and possibly color. Color could also be a reflection of habitat. Based on the same types described by Castelnau, Regan, in 1904, made them synonyms, but without explanations. In this paper, it is possible for me to confirm Regan's proposal. Recently, I also

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had the opportunity to examine a large number of *Parancistrus aurantiacus* (more than 150 specimens) collected in the Rio Tocantins, Pará State, Brazil (Fig. 1). This sample consists of specimens of all different sizes and covers the characters of the 3 «species» as proposed by Castelnau. It is interesting to note that at the very end of Castelnau's description of *P. aurantiacus*, he mentioned that he received and examined a specimen collected in the Araguaia River (tributary of the Tocantins, where the INPA material was collected), and that this specimen was virtually the same as the Ucayali specimen.

Thus, I present a redescription of *Parancistrus aurantiacus* (Castelnau, 1855) based on type and non-type material, together with a redefinition of *Parancistrus* Bleeker, 1862.

METHODS

Counts and measurements were principally based on the methods employed by Boeseman (1968).

Table I is presented to elucidate the nomenclatural changes concerning the species cited in the text.

Abbreviations: Bd = body depth; Bw = body width; c. ped. l. = caudal peduncle length; c. ped. d. = caudal peduncle depth; D base = base of dorsal fin; GO = gill-openings interdistance; HL = head length; Hw = head width; IO = interorbital distance; mand. r. = mandibular ramus; N = number of non-type specimens measured and counted; od = orbital diameter; P = pectoral spine; PD = predorsal distance; s = standard deviation; SL = standard length; Sn. l. = snout length; x = average.

Institutions: INPA = Instituto Nacional de Pesquisas de Amazônia, Manaus, Brazil; MNHN = Muséum National d'Histoire Naturelle, Paris, France.

PARANCISTRUS BLEEKER, 1862

Bleeker (1862) defined the genus *Parancistrus* very briefly as being a «Plecostomini» with two dorsal fins united and the cephalic scutes not carinated, and designated as the type-species *Parancistrus aurantiacus* = *Hypostomus aurantiacus* Castelnau.

Regan (1904) considered *Parancistrus* a subgenus of *Ancistrus* and presented a summarized definition of the subgenus in a differential key to the *Ancistrus* species. *Parancistrus* was defined by the presence of a continuous membrane behind the last dorsal fin ray which can reach the adipose fin or not. Regan included three species in the subgenus *Parancistrus*: *Ancistrus* (*P.*) *aurantiacus* (Castelnau, 1855), *A. (P.) niveatus* (Castelnau, 1855) and *A. (P.) punctatissimus* (Steindachner, 1881).

Since then, the subgenus *Parancistrus* has been elevated to genus level by some authors, as listed in Isbrücker's 1980 catalogue.

I also agree with the valid generic level of *Parancistrus*.

Diagnosis: Snout covered with rough plates, without bristles; interopercle with long and numerous hooks (or spines). Body and head scutes not carinate; abdomen partially or completely covered with scutelets (depending on age). Mouth with papillate lips; premaxillary and dentary bones almost the same size, bearing small and few teeth. Premaxillary bones in a parallel disposition in relation to dentary bones. Fragile teeth, inconspicuously cuspidated. Gill openings very large. All fins, except anal, well developed; dorsal fin totally united with adipose fin by a membrane.

$D = I + 7$; $P = I + 6$; $V = i + 5$; $A = i + 4$; $C = i + 14 + i$.



Fig. 1 : Map of the Rio Tocantins, Pará State, Brazil.

Table I : Nomenclatural changes of the species cited in the text.

Castelnau, 1855	Regan, 1904	Isbrücker, 1980	This paper
<i>Hypostomus aurantiacus</i>	<i>Ancistrus</i> (<i>Parancistrus</i>) <i>aurantiacus</i>	<i>Parancistrus aurantiacus</i>	<i>Parancistrus aurantiacus</i>
<i>Hypostomus nigricans</i>	<i>Ancistrus</i> (<i>Parancistrus</i>) <i>aurantiacus</i>	<i>Parancistrus nigricans</i>	<i>Parancistrus aurantiacus</i>
<i>Hypostomus vicinus</i>	<i>Ancistrus</i> (<i>Parancistrus</i>) <i>aurantiacus</i>	<i>Parancistrus vicinus</i>	<i>Parancistrus aurantiacus</i>
<i>Hypostomus niveatus</i>	<i>Ancistrus</i> (<i>Parancistrus</i>) <i>niveatus</i>	<i>Parancistrus niveatus</i>	<i>Baryancistrus niveatus</i> n. comb.
Steindachner, 1881			
<i>Chaetostomus punctatissimus</i>	<i>Ancistrus</i> (<i>Parancistrus</i>) <i>punctatissimus</i>	<i>Parancistrus punctatissimus</i>	<i>Oligancistrus punctatissimus</i> n. comb.

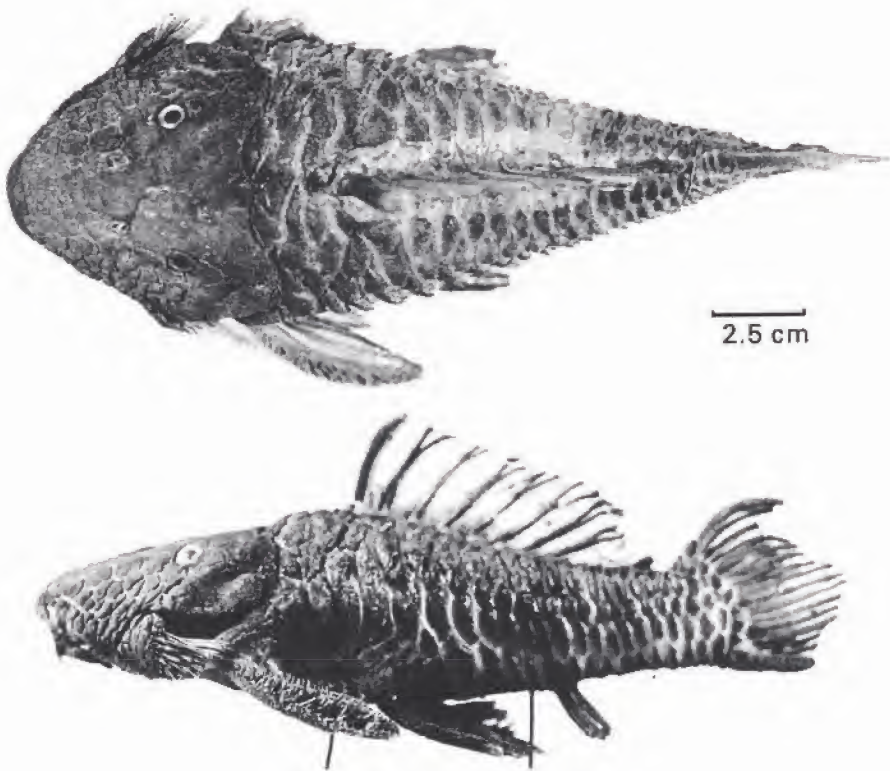


Fig. 2 : *Parancistrus aurantiacus* (Castelnau), holotype of *Hypostomus aurantiacus* (MNHN A 9452).

PARANCISTRUS AURANTIACUS (CASTELNAU, 1855)

(Figs 2 to 5)

Hypostomus aurantiacus Castelnau, 1855, p. 43, pl. xxi, fig. 2 (original description) ; Regan, 1904, p. 236 (redescription of the type).

Hypostomus nigricans Castelnau, 1855, p. 44, pl. xxii, fig. 1 (original description) ; Regan, 1904, p. 236 (synonym of *Ancistrus aurantiacus*).

Hypostomus vicinus Castelnau, 1855, p. 44, pl. xxii, fig. 1 (original description) ; Regan, 1904, p. 236 (synonym of *Ancistrus aurantiacus*).

Material examined : MNHN A 9452, holotype of *Hypostomus aurantiacus*, R. Ucayali, Peru (SL : 192,5 mm) ; MNHN A 9576, holotype of *Hypostomus nigricans*, R. Amazonas («F1. Amazone»), Brazil (SL = 110 mm) ; MNHN A 9572, holotype of *Hypostomus vicinus*, R. Ucayali, Peru (SL = 78 mm) ; INPA 787, 159 specimens, Rio Tocantins, below the Tukurui dam, Pará State, Brazil, September/1984, collected with rotenone by M. Jégu and G.M. dos Santos ; INPA 788, 2 specimens, Rio Tocantins, above the Tukurui dam, Pará State, Brazil, 12/11/1984, collected with gillnet by G.M. dos Santos ; INPA 789, 4 specimens, Rio Tocantins, small ponds just below Tukurui dam, Pará State, Brazil, 9/10/1984, collected with rotenone by M. Jégu and G.M. dos Santos.

Description : Morphometric and meristic data are presented in Tables II and III.

Body short (between 73-135 mm SL (N = 20)) and like the head, broad and depressed. Snout broad, uniformly rounded to slightly triangular. The body has a lozenge shape. Supraoccipital plate almost fused to the posttemporal plates and posteriorly limited by 3 or 4 nuchal

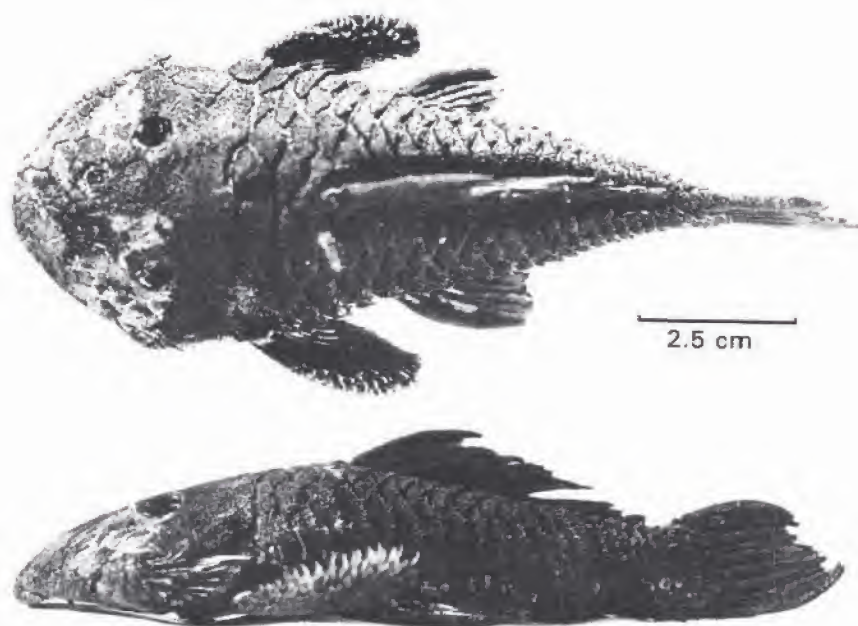


Fig. 3 : *Parancistrus aurantiacus* (Castelnau), holotype of *Hypostomus nigricans* (MNHN A 9576).

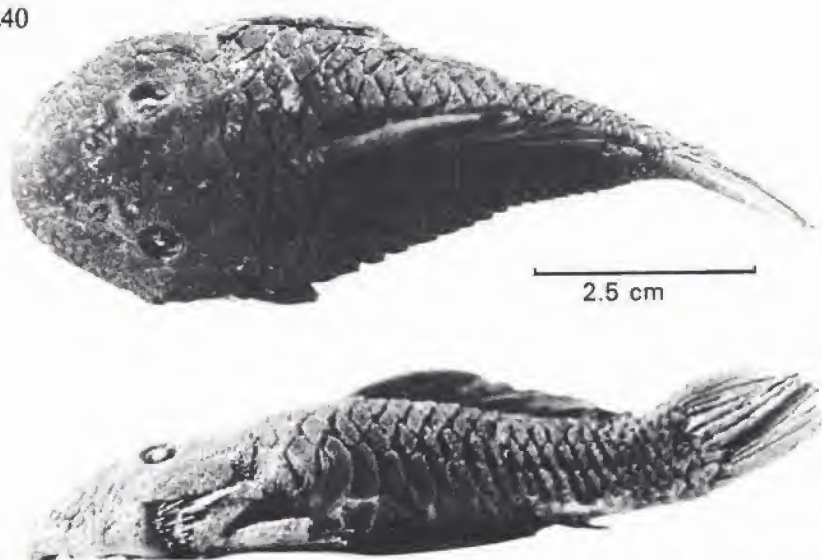


Fig. 4 : *Parancistrus aurantiacus* (Castelnau), holotype of *Hypostomus vicinus* (MNHN A 9572).

Table II : Morphometric data of *Parancistrus aurantiacus* (A = holotype of *Hypostomus aurantiacus* ; b = holotype of *Hypostomus nigricans* ; c = holotype of *Hypostomus vicinus*) (Measurements 1 in millimeters, 2 to 7 as ratios of SL, 8 to 9 as ratios of D spine length, 10 to 13 as ratios of HL, 14 and 15 as ratios of 20, 16 as ratio of Bw, 17 as ratio of c. ped. l., 18 as ratio of PD ; for abbreviations see text page I).

	N	Range	A	B	C	X	S
1. SL	20	73,0-135,0	192,5	110,0	78,0	—	—
2. HL	20	2,4-2,7	2,7	2,7	2,8	2,5	0,125
3. Bd	20	3,7-6,0	3,5	4,7	5,5	4,5	0,650
4. Bw	20	2,5-3,1	3,0	3,1	3,2	2,8	0,199
5. D base	14	2,2-2,7	2,4	2,3	2,4	2,4	0,140
6. PD	20	2,0-2,3	2,2	2,1	2,1	2,1	0,070
7. c. ped. l.	20	3,9-4,9	4,7	4,9	4,9	4,4	0,260
8. D base	13	1,9-2,1	2,5	2,1	1,8	1,9	0,220
9. P	19	1,1-1,3	1,7	1,3	1,1	1,2	0,129
10. Hw	20	0,9-1,0	1,0	1,0	1,0	1,0	0,023
11. Sn. l.	20	1,4-1,6	1,5	1,5	1,5	1,5	0,050
12. od	20	6,1-7,4	9,1	8,0	6,5	6,9	0,670
13. IO	20	2,3-2,6	2,4	2,5	2,4	2,4	0,079
14. mand. r.	20	3,9-5,1	—	4,3	5,0	4,1	0,466
15. od	20	2,4-3,2	3,8	3,2	2,7	2,8	0,320
16. GO	17	2,6-3,8	2,7	2,7	2,6	3,2	0,399
17. c. ped. d.	20	1,4-2,1	1,5	1,6	1,7	1,8	0,180
18. Hw	20	1,1-1,2	1,2	1,2	1,2	1,1	0,050

Table III : Meristic data of *Parancistrus aurantiacus* (A = holotype of *Hypostomus aurantiacus*, B = holotype of *Hypostomus nigricans*, C = holotype of *Hypostomus vicinus*).

	N - 1	Range	A	B	C
Lateral plates	20	22-23	22	23	24
Plates of c. ped.	20	10-11	9	9	9
Premaxillary teeth	20	3-16	—	20	15
Dentary teeth	20	10-21	—	12	3

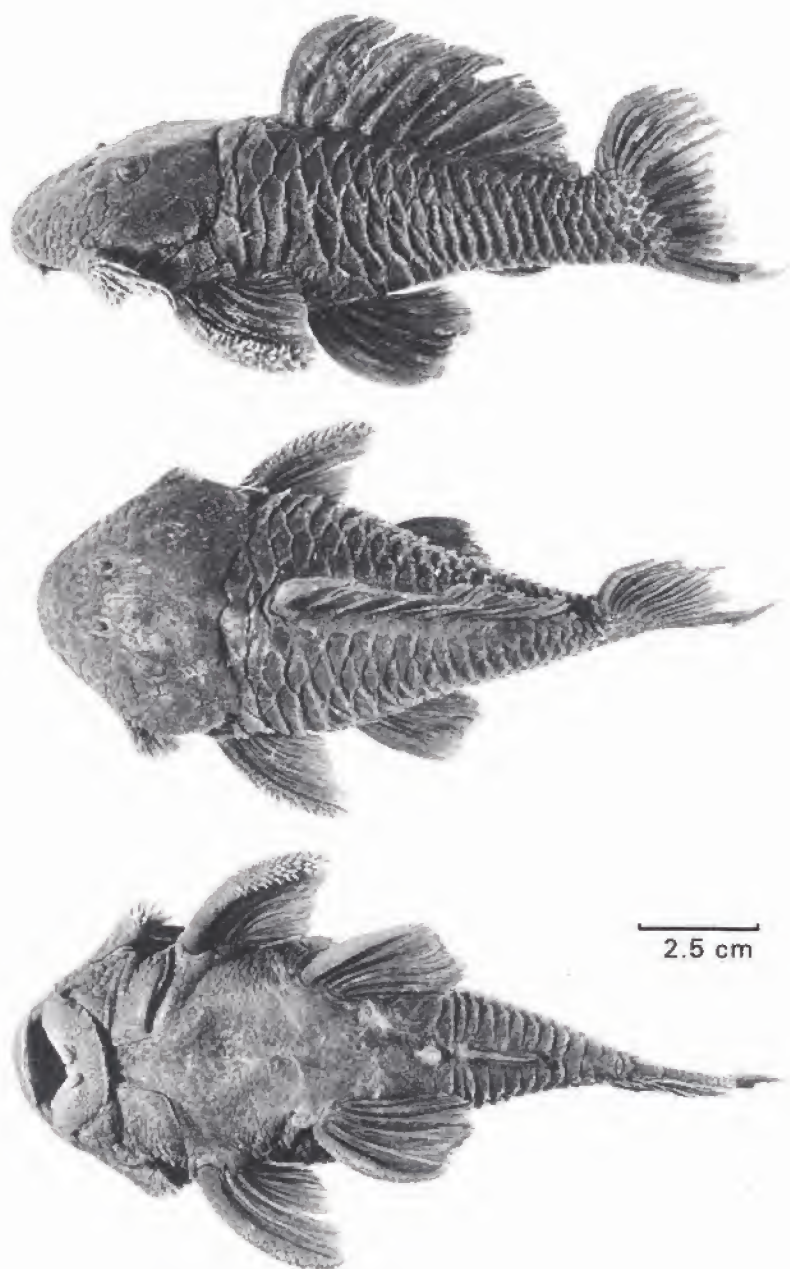


Fig. 5 : *Parancistrus aurantiacus* (Castelnau), INPA 787.

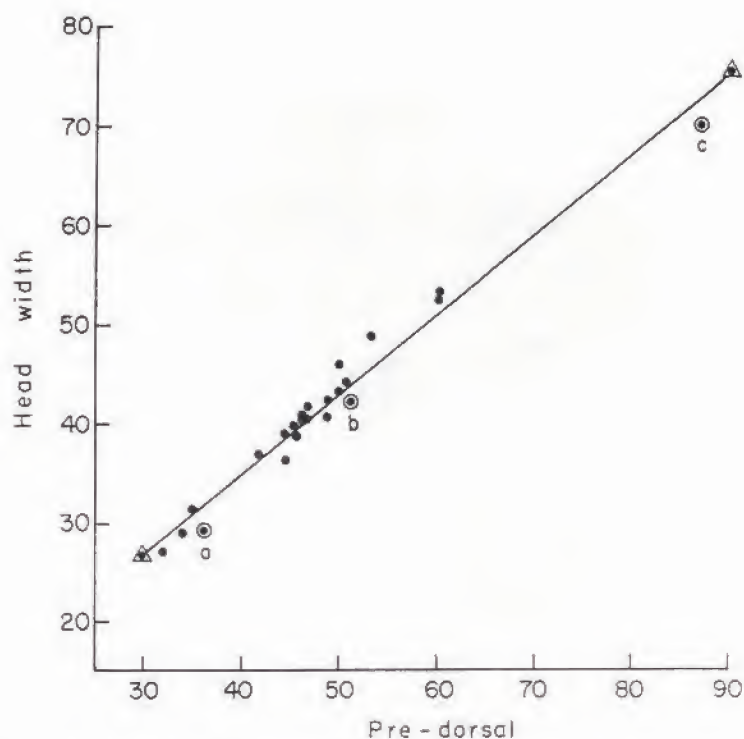


Fig. 6: Regression of head width against pre-dorsal length (expressed in mm) of *Parancistrus aurantiacus*. a = holotype of *Hypostomus vicinus* (MNHN A 9572), b = holotype of *Hypostomus nigricans* (MNHN A 9576), c = holotype of *Hypostomus aurantiacus* (MNHN A 9452).

Table IV : Regression coefficients of *Parancistrus aurantiacus*.

	N - 1	r - 1	Slope	Intercept
HL x SL	23	0,98	0,35	4,3
Bd x SL	23	0,98	0,34	-11,8
D base x SL	17	0,97	0,41	0,35
Hw x PD	23	0,98	0,81	2,48
Hw x HL	23	0,99	1,02	0,16
IO x HL	23	0,99	0,44	-0,996

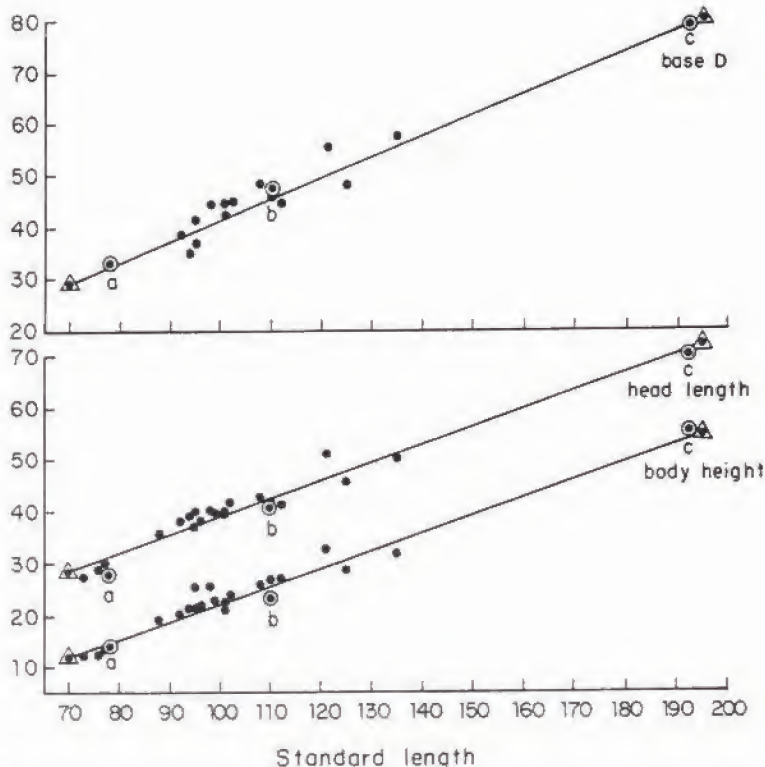


Fig. 7 : Regression of D base, head length and body height against standard length (expressed in mm) of *Parancistrus aurantiacus*. a = holotype of *Hypostomus vicinus* (MNHN A 9572), b = holotype of *Hypostomus nigricans* (MNHN A 9576), c = holotype of *Hypostomus aurantiacus* (MNHN A 9452).

plates. Three to four pairs of predorsal plates between the supraoccipital process and the small procurent spinule.

Interopercle with great mobility, bearing 12 to 16 long and recurved spines (the largest extends beyond pectoral fin base).

Eyes superior. Interorbital region flat.

Mouth small, upper lip with a narrow strip of skin bearing minute papillae, lower lip broad and papillate. The smallest distance between gill openings represents 26 to 38 % of body width at dorsal fin level. Belly completely covered by scutelets in specimens larger than 95 mm SL. Body plates spiny, not carinate.

Dorsal fin longer than deep (its base runs along 16 plates). Pectoral spine extending to middle of ventral fins, covered with long spines. Ventral fins well developed, the first unbranched ray as long as dorsal spine. Caudal fin truncate or obliquely emarginate.

Fins and dorsal and ventral surfaces of the body uniformly dark grey. Some specimens show a reticulate pattern on the dorsal surface of the body and on the fins.

Gill-rakers long, thin and numerous, of the filtrator kind. Pharyngeal teeth rudimentary and uniformly aligned on the narrow pharyngeal bony plate. The stomach is large, saccular, poorly vascularized. It was empty in all the observed specimens. The intestine, greatly coiled, was also empty in the observed specimens. Intestine is 18 times longer than SL.

Ecological remarks : The striking appearance of *Parancistrus aurantiacus* is noted at first sight. The large gill openings, not common among loricariids, may have a physiological and

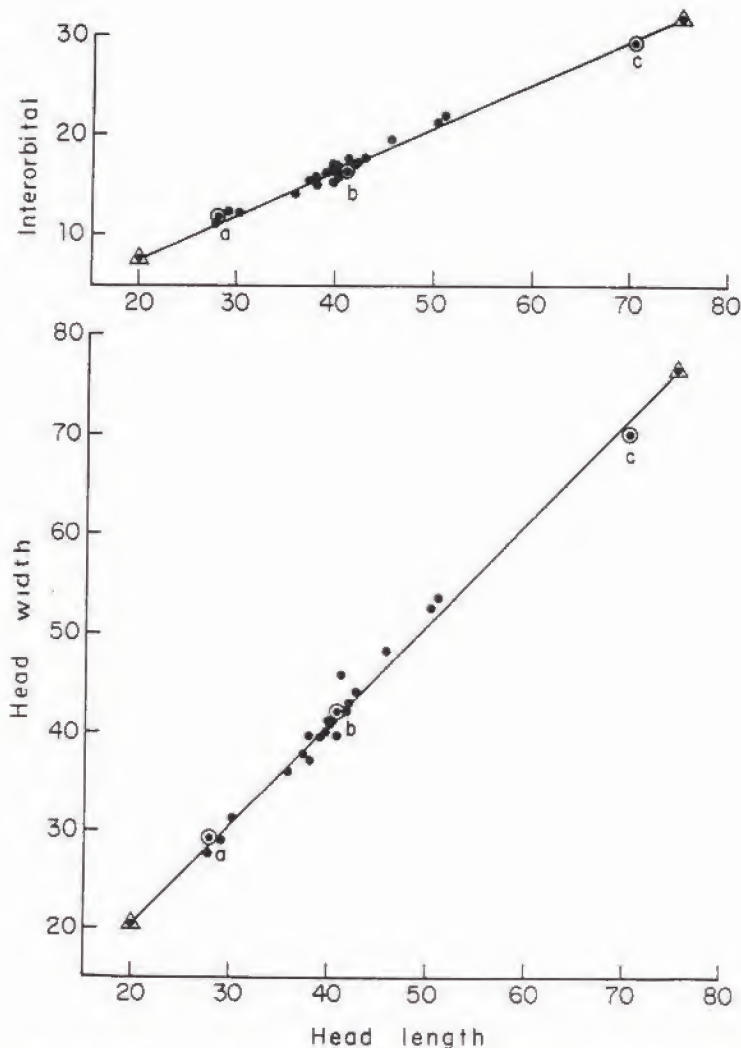


Fig. 8 : Regression of interorbital distance and head width against head length (expressed in mm) of *Parancistrus aurantiacus*. a = holotype of *Hypostomus vicinus* (MNHN A 9572), b = holotype of *Hypostomus nigricans* (MNHN A 9576). c = holotype of *Hypostomus aurantiacus* (MNHN A 9452).

behaviouristic function. The material collected in Rio Tocantins was founded only during September-November of 1984, when the dam had been closed and many different sized pools remained as the only refuges of the still alive species of fishes. In 8 years of extensive studies and collections of the fauna in the area of the Tucuruí reservoir, *P. aurantiacus* was never found. It is also interesting to note that *P. aurantiacus* was collected in pools where, during the normal course of the river, it was very deep. May be the large gill openings are effective towards a more efficient aquatic respiration, as *P. aurantiacus* has not many noticeable adaptation for aerial respiration, as in most other loricariids.

Another loricariid species with large gill openings is *Rhinelepis aspera*, which is cited to possess a posterior chamber in the air-bladder, not found in other loricariids (Britski *et al.*, 1979). I could not find a similar structure in *P. aurantiacus*.

Discussion : In the genus *Parancistrus*, we find literature records of 6 species, very different from each other, having in common only the more or less developed membrane beyond the last dorsal fin ray.

Our examination of the holotype of *Hypostomus niveatus* Castelnau, 1855, shows that it has to be put in a new genus with other species that share the same characteristics. The same is true of *Chaetostomus punctatissimus* Steindachner, 1881. Unfortunately, I have not seen Steindachner's type yet, but according to specimens recently collected, it must be assigned to an additional new genus.

Both new genera are herein described. Some new species that will make part of them are known to me, and will be described elsewhere.

In Table V, I present the main differences between the type-species of the three genera.

***BARYANCISTRUS* N. GEN.**

Type species : *Baryancistrus niveatus* (Castelnau, 1855) n. comb.

Diagnosis: Snout rounded and covered with rough plates, without bristles ; interopercle with numerous hooks (or spines). Body broad and more or less depressed. Small gill openings. Large mouth with premaxillaries long, with many teeth (up to 80) and in a parallel disposition. Dorsal fin not united to adipose fin, but with posterior membrane well-developed. Abdomen partially covered by scutelets even in adults. Coloration with light spots.
 $D = I+7$; $P = I+5-6$; $V = i+5$; $A = i+4$; $C = i+13+14+i$.

Etymology : *barys* (Gr.) = heavy.

Table V : Main differences between *Parancistrus* and the two new genera *Baryancistrus* and *Oligancistrus*.

<i>Parancistrus aurantiacus</i>	<i>Baryancistrus niveatus</i>	<i>Oligancistrus punctatissimus</i>
large gill openings	small gill openings	small gill openings
dorsal fin completely united to adipose fin	dorsal not united to adipose fin, though with posterior membrane well developed	dorsal united to adipose fin
body broad, short and depressed	body broad, robust and more or less depressed	body less broad and compressed
snout generally rounded	snout rounded	snout pointed
premaxillary short with few teeth in a parallel disposition	premaxillary long with many teeth (up to 80) and in a parallel disposition	premaxillary short few teeth and in a convergent disposition
abdomen totally covered by scutelets in adults	abdomen partially covered by scutelets even in adults	abdomen naked or with few scutelets only
coloration uniform to striped	coloration with light spots	coloration with light spots

OLIGANCISTRUS N. GEN.

Type species : *Oligancistrus punctatissimus* (Steindachner, 1881) n. comb.

Diagnosis : Snout pointed and covered with plates without bristles ; interopercle with few hooks. Head and body deep and compressed. Small size. Small gill openings. Mouth small ; premaxillaries with few teeth (up to 24) and in a convergent disposition. Dorsal fin united to adipose fin. Abdomen naked or with few plates. Coloration with light spots.
 $D = I+7$; $P = I+6$; $V = i+5$; $A = i+4$; $C = i+14+i$.

Etymology : *oligos* (Gr.) = few, alluding to the few teeth on the premaxillaries.

CONCLUSION

The extreme development of membranes between the dorsal fin and the adipose fin has already been observed in other species of different subfamilies in the Loricariidae (Isbrücker, pers. comm.).

The genus *Parancistrus* comprises only one species, *P. aurantiacus*, because of its peculiar body shape and consequent morphometric relations.

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